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EXAMINER	
RIYAMI, ABDULLA A	
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2416	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/702,376	LIU ET AL.	
	Examiner	Art Unit	
	ABDULLAH RIYAMI	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to a response/amendment filed on 12/02/2008.

2. Claims 1, 8, 13 have been amended.

3. New claims 18-20 have been added. No claims have been canceled.

4. Claims 1-20 remain pending in the application.

Response to Arguments

5. Applicant's arguments with respect to claim1-14 and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments filed 12/02/2008 with respect to claim 15 has been fully considered but is are not persuasive. Applicant argues that the prior art fails to disclose "sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a transmission-end equipment".

Examiner respectfully disagrees with Applicant's characterization of the prior art. As described in paragraph 25, line 6-7 Scholten discloses the teaching of flow control signaling by using pause frames. Scholten disclose sending a flow control packet (see paragraph 33, lines 1-9, FIFO for client n is almost full, a pause frame is inserted in the stream of ingress frames for the client) with a VC-Trunk tag (see paragraph 38, lines 1-15, GFP pause frame, includes core header, payload header which is a client management frame, payload type indicator, upi which indicates the user control payload or the ingress traffic itself could be the identifier) indicating the VC-Trunk to a transmission-end equipment (see figure 2, plurality of clients 1-n, figure 3,

microprocessor 48 and frame insert 46, see figure 4, client n buffer is almost full and pause frame is inserted in step 58, client 60 captures pause frame in step 60, and paragraph 22, lines 1-17, in a SONET WAN different virtual channels or groups can carry traffic associated with different links and the demux can take the form of a buffer employing an addressing scheme based on **numeric identifiers** of the different virtual channels) in Ramsden's apparatus and method (see figure 1).

Claim Rejections - 35 USC § 103

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-14 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsden et al. (EP 1006751 A2) in view of Bordogna et al. (US 2008/0291832 A1).

As per claim 1, Ramsden discloses a flow control method for Virtual Container VC-Trunks in metropolitan-area network equipment (see paragraph 7 and column 11, paragraph 27, lines 30-33, metropolitan area network, see figure 1, Ethernet switches 103 and 104, and figure 4, frame transmission and reception and flow control using pause frames) comprising:

determining, by a receiving-end equipment (see figure 1, Ethernet switch 104) whether there is congestion at a VC- Trunk of the receiving-end equipment (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414), if there is congestion at the VC-trunk sending out flow control packet of the VC-Trunk to a transmission-end equipment (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103);

pausing, by the transmission-end equipment (see figure 1, Ethernet switch 103), a service transmission of the VC-trunk in the flow control packet (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X).

Ramsden does not expressly disclose determining by a receiving-end equipment, whether there is congestion at a single VC-Trunk of a plurality of VC Trunks of a physical port of the receiving-end equipment, if there is congestion at the VC-Trunk, adding a VC-Trunk tag indicating that there is congestion at the VC-Trunk in a flow control packet and sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a transmission-end equipment.

Bordogna discloses determining by a receiving-end equipment (see figure 1, gfp 155), whether there is congestion at a single VC-Trunk of a plurality of VC Trunks of a physical port of the receiving-end equipment (see paragraph 17, lines 1—17, controlling the flow of packets aggregated from multiple logical ports that are transmitted over a transport link, see paragraph 19, lines 1-15, providing a directed flow control message to the transmitting end station 105-n causing the detected congestion), if there is congestion at the VC-Trunk (see paragraph 19, lines 1-15, providing a directed flow control message to the transmitting end station 105-n causing the detected congestion),

adding a VC-Trunk tag indicating that there is congestion at the VC-Trunk in a flow control packet and sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a transmission-end equipment (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155 associated with the offending transmitting end station 105-nto a port based pause frame that is sent only to the offending transmitting end station 105-n identified by customer identification as shown in figure 3).

Ramsden and Bordogna are analogous art since they are from the same field of endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Bordogna's flow control technique of determining by a receiving-end equipment (see figure 1, gfp 155), whether there is congestion at a single VC-Trunk of a plurality of VC Trunks of a physical port of the receiving-end equipment (see paragraph 17, lines 1—17, controlling the flow of packets aggregated from multiple logical ports that are transmitted over a transport link, see paragraph 19, lines 1-15, providing a directed flow control message to the transmitting end station 105-n causing the detected congestion), if there is congestion at the VC-Trunk (see paragraph 19, lines 1-15, providing a directed flow control message to the transmitting end station 105-n causing the detected congestion), adding a VC-Trunk tag indicating that there is congestion at the VC-Trunk in a flow control packet and sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a transmission-end equipment (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155

associated with the offending transmitting end station 105-nto a port based pause frame that is sent only to the offending transmitting end station 105-n identified by customer identification as shown in figure 3) in Ramsden's apparatus and method for flow control (see figure 1).

The motivation to combine would have been to have a method and apparatus for improving the method of controlling flow of packets aggregated from multiple logical ports over a transport link and for suspending the flow of only a single station that transmits packets over an aggregated transport link (see paragraph 8, lines 10-14, Bordogna).

As per claim 2, Ramsden discloses the flow control method further comprising, after pausing the service transmission of the VC- Trunk initiating, by the transmission-end equipment, a flow control timer at the transmission-end equipment if the flow control timer expires and no new flow control packet is received, then waiting resuming, by the transmission-end equipment, the service transmission of the VC-Trunk (inherent, see paragraph 37)(see figure 1, Ethernet switch 103, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X).

As per claim 3, Ramsden discloses the flow control method further comprising, wherein after sending the flow control packet with the VC-Trunk tag (Bordogna) to the transmission-end equipment, initiating, by the receiving-end equipment, a flow control timer at the receiving-end equipment and sending the flow control packet in a timely manner until the congestion disappears (see figure 1, Ethernet switch 103 and 104, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X) (inherent, see paragraph 37).

As per claim 4, Ramsden discloses the flow control method comprising, the determining whether there is congestion at the VC-Trunk of the receiving-end equipment comprises, calculating, by the receiving-end equipment, the number of the service data packets received at the of every VC-Trunk (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers) and determining that there is congestion at the VC-Trunk if the whether said number exceeds a preset flow control threshold (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause

frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers).

As per claim 5, Ramsden discloses the flow control method comprising, the determining whether there is congestion at the VC-Trunk of the receiving-end equipment comprises (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers), determining, by the receiving-end equipment, whether a First In First Out (FIFO) buffer of the VC-Trunk at the receiving-end transmission equipment is overflow and determining that there is congestion at the VC-Trunk if the FIFO buffer is overflow (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers).

As per claim 6, Bordogna et al. discloses the flow control method, wherein the flow control packet comprises an 802.3x pause frame and the VC-Trunk tag as a header is added to 802.3x pause frame (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155 associated with the offending transmitting end station 105-nto a port based pause frame that is sent only to

the offending transmitting end station 105-n identified by customer identification as shown in figure 3).

As per claim 7, Bordogna discloses the flow control method, wherein VC-Trunk tags correspond to VC-Trunks one by one, and a length of the VC-Trunk tag is determined by the number of VC-Trunks (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155 associated with the offending transmitting end station 105-nto a port based pause frame that is sent only to the offending transmitting end station 105-n identified by customer identification as shown in figure 3).

As per claim 8, Ramsden discloses a receiving-end apparatus for flow control of Virtual Container (VC) Trunks (see paragraph 7 and column 11, paragraph 27, lines 30-33, metropolitan area network, see figure 1, Ethernet switches 103 and 104, and figure 4, frame transmission and reception and flow control using pause frames) comprising: a physical port comprising a plurality of VC-Trunks (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103),

a first unit determining whether there is congestion at a single VC- Trunk of the plurality of VC-Trunks (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is

incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers), if there is congestion at the VC-trunk sending out flow control packet of the VC-Trunk (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103);

Ramsden does not expressly disclose a first unit determining whether there is congestion at a single VC-Trunk of a plurality of VC Trunks, adding a VC-Trunk tag indicating that there is congestion at the VC-Trunk in a flow control packet and sending a flow control packet with a the VC-Trunk tag.

Bordogna discloses a first unit (see figure 1, gfp 155) determining whether there is congestion at a single VC-Trunk of a plurality of VC Trunks (see paragraph 17, lines 1—17, controlling the flow of packets aggregated from multiple logical ports that are transmitted over a transport link, see paragraph 19, lines 1-15, providing a directed flow control message to the transmitting end station 105-n causing the detected congestion), adding a VC-Trunk tag indicating that there is congestion at the VC-Trunk in a flow control packet and sending a flow control packet with a the VC-Trunk tag (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155 associated with the offending transmitting end station 105-nto a port

based pause frame that is sent only to the offending transmitting end station 105-n identified by customer identification as shown in figure 3).

Ramsden and Bordogna are analogous art since they are from the same field of endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Bordogna's flow control technique of using a first unit (see figure 1, gfp 155) determining whether there is congestion at a single VC-Trunk of a plurality of VC Trunks (see paragraph 17, lines 1—17, controlling the flow of packets aggregated from multiple logical ports that are transmitted over a transport link, see paragraph 19, lines 1-15, providing a directed flow control message to the transmitting end station 105-n causing the detected congestion), adding a VC-Trunk tag indicating that there is congestion at the VC-Trunk in a flow control packet and sending a flow control packet with a the VC-Trunk tag (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155 associated with the offending transmitting end station 105-nto a port based pause frame that is sent only to the offending transmitting end station 105-n identified by customer identification as shown in figure 3) in Ramsden's apparatus and method for flow control (see figure 1).

The motivation to combine would have been to have a method and apparatus for improving the method of controlling flow of packets aggregated from multiple logical ports over a transport link and for suspending the flow of only a single station that transmits packets over an aggregated transport link (see paragraph 8, lines 10-14, Bordogna).

As per claim 9, Ramsden discloses the flow control receiving apparatus comprising, a first unit resuming a service receiving after a time indicated by the flow control packet expires (see figure 1, Ethernet switch 103 and 104, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X) (inherent, see paragraph 37).

As per claim 10, Ramsden discloses the flow control apparatus comprising, a second unit for initiating a flow control timer (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers, see paragraph 37, pause time), and the first unit is further configured for sending the flow control packet in a timely manner until congestion disappears (see paragraph 37, pause time, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers).

As per claim 11, Ramsden discloses the flow control apparatus comprising, the determining whether there is congestion at the VC-Trunk of the receiving-end equipment comprises, calculating, by the receiving-end equipment, the number of the service data packets received at the of every VC-Trunk (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers) and determining that there is congestion at the VC-Trunk if the whether said number exceeds a preset flow control threshold (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers).

As per claim 12, Ramsden discloses the flow control method comprising, the determining whether there is congestion at the VC-Trunk of the receiving-end equipment comprises (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers), determining, by the receiving-end equipment, whether a First In First Out (FIFO) buffer of the VC-Trunk at the receiving-end transmission equipment is overflow and determining that there is congestion at the VC-Trunk if the FIFO buffer is overflow (see paragraph 30,

lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers).

As per claim 13, Ramsden discloses a transmitting-end apparatus (see figure 1, Ethernet switch 103) for flow control of Virtual Container (VC) Trunks (see paragraph 7 and column 11, paragraph 27, lines 30-33, metropolitan area network, see figure 1, Ethernet switches 103 and 104, and figure 4, frame transmission and reception and flow control using pause frames) comprising:

a physical port comprising a plurality of VC-Trunks (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103),

a first unit configured for receiving a flow control packet indicating that there is congestion at a single VC-Trunk of the plurality of VC-Trunks through the physical port (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers) and pausing service transmission of the VC-trunk (see figure 1, Ethernet switch 103, see paragraph 30, lines 50-52 and 1-10, upon

detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X).

Ramsden does not expressly disclose a first unit receiving a flow control packet containing a VC-Trunk tag indicating the VC-Trunk there is congestion at a single VC-Trunk of a plurality of VC Trunks of a physical port.

Bordogna discloses a first unit (see figure 1, end station 105-n) receiving a flow control packet containing a VC-Trunk tag indicating the VC-Trunk there is congestion at a single VC-Trunk of a plurality of VC Trunks of a physical port (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155 associated with the offending transmitting end station 105-nto a port based pause frame that is sent only to the offending transmitting end station 105-n identified by customer identification as shown in figure 3).

Ramsden and Bordogna are analogous art since they are from the same field of endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Bordogna's flow control technique of using a first unit (see figure 1, end station 105-n) receiving a flow control packet containing a VC-Trunk tag indicating the VC-Trunk there is congestion at a single VC-Trunk of a plurality of VC Trunks of a

physical port (see paragraph 19, lines 10-15, the flow control indicator is mapped by the gfp mapping function130 or 155 associated with the offending transmitting end station 105-nto a port based pause frame that is sent only to the offending transmitting end station 105-n identified by customer identification as shown in figure 3) in Ramsden's apparatus and method for flow control (see figure 1).

The motivation to combine would have been to have a method and apparatus for improving the method of controlling flow of packets aggregated from multiple logical ports over a transport link and for suspending the flow of only a single station that transmits packets over an aggregated transport link (see paragraph 8, lines 10-14, Bordogna).

As per claim 14, Ramsden discloses the flow control transmission apparatus comprising, a second unit initiating and resuming a service receiving after a time indicated by the flow control packet expires (see figure 1, Ethernet switch 103 and 104, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X) (inherent, see paragraph 37).

As per claim 18, Bordogna discloses wherein the flow control packet with the VC-Trunk tag is sent to the transmission-end equipment through anyone of the plurality of

VC-Trunks except for the VC-Trunk which has congestion (see paragraph 23, the gfp mapping functions provide port based interface to translate the flow control indicator to a port based pause frame, and could also provide a logical port based interface to translate to a logical channel).

As per claim 19, Bordogna discloses wherein the first unit is further configured for sending out the flow control packet with the VC-Trunk tag through anyone of the plurality of VC-Trunks except for the VC-Trunk which has congestion (see paragraph 23, the gfp mapping functions provide port based interface to translate the flow control indicator to a port based pause frame, and could also provide a logical port based interface to translate to a logical channel).

As per claim 20, Bordogna discloses wherein the first unit is further configured for receiving the flow control packet through one of the plurality of VC-Trunks except for the VC-Trunk which has congestion (see paragraph 23, the gfp mapping functions provide port based interface to translate the flow control indicator to a port based pause frame, and could also provide a logical port based interface to translate to a logical channel).

11. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsden et al. (EP 1006751 A2) in view of Sholten (US 2003/0218981 A1).

As per claim 15, Ramsden discloses a system for flow control of Virtual Container (VC) Trunks (see figure 1, Ethernet switch 103, see paragraph 7 and column 11, paragraph 27, lines 30-33, metropolitan area network, see figure 1, Ethernet switches

103 and 104, and figure 4, frame transmission and reception and flow control using pause frames) comprising:

a receiving-end equipment (see figure 1, switch 104) for determining whether there is congestion at a VC- Trunk of the receiving-end equipment (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers), if there is congestion at the VC-trunk sending out flow control packet of the VC-Trunk (see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers);

a transmission-end equipment (see figure 1, switch 103) configured for pausing a service transmission of the VC-trunk in the flow control packet (see figure 1, Ethernet switch 103, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X).

Ramsden et al. does not expressly disclose determining if there is congestion at the VC-Trunk, sending a flow control packet with a VC-Trunk tag indicating the VC-Trunk to a transmission-end equipment.

Scholten discloses determining if there is congestion at the VC-Trunk (see paragraph 25, line 6-7 flow control signaling), sending a flow control packet (see paragraph 33, lines 1-9, FIFO for client n is almost full, a pause frame is inserted in the stream of ingress frames for the client) with a VC-Trunk tag (see paragraph 38, lines 1-15, GFP pause frame, includes core header, payload header which is a client management frame, payload type indicator, upi which indicates the user control payload or the ingress traffic itself could be the identifier) indicating the VC-Trunk to a transmission-end equipment (see figure 2, plurality of clients 1-n, figure 3, microprocessor 48 and frame insert 46, see figure 4, client n buffer is almost full and pause frame is inserted in step 58, client 60 captures pause frame in step 60, and paragraph 22, lines 1-17, in a SONET WAN different virtual channels or groups can carry traffic associated with different links and the demux can take the form of a buffer employing an addressing scheme based on **numeric identifiers** of the different virtual channels).

Ramsden and Scholten are analogous art since they are from the same field of endeavor flow control in SONET /SDH networks.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Scholten's flow control teaching of determining if there is congestion at the VC-Trunk (see paragraph 25, line 6-7 flow control signaling), sending a flow control

packet (see paragraph 33, lines 1-9, FIFO for client n is almost full, a pause frame is inserted in the stream of ingress frames for the client) with a VC-Trunk tag (see paragraph 38, lines 1-15, GFP pause frame, includes core header, payload header which is a client management frame, payload type indicator, upi which indicates the user control payload or the ingress traffic itself could be the identifier) indicating the VC-Trunk to a transmission-end equipment (see figure 2, plurality of clients 1-n, figure 3, microprocessor 48 and frame insert 46, see figure 4, client n buffer is almost full and pause frame is inserted in step 58, client 60 captures pause frame in step 60, and paragraph 22, lines 1-17, in a SONET WAN different virtual channels or groups can carry traffic associated with different links and the demux can take the form of a buffer employing an addressing scheme based on **numeric identifiers** of the different virtual channels) in Ramsden's apparatus and method (see figure 1).

The motivation to combine would have been to have a technique and apparatus for performing flow control in a network by using pause messages for different streams and clients based on the availability of buffers in transceiver terminals.

As per claim 16, Ramsden discloses the flow control receiving apparatus initiating a flow control timer and sending to the transmission apparatus in a timely manner until the congestion disappears (inherent, see paragraph 37) (see figure 1, Ethernet switch 103 and 104, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41,

to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X).

As per claim 17, Ramsden discloses the flow control apparatus further comprising, initiating a flow control timer after pausing the transmission and resuming the flow control packet in a timely manner until the congestion disappears (inherent, see paragraph 37) (see figure 1, Ethernet switch 103 and 104, see paragraph 30, lines 50-52 and 1-10, upon detecting excessive receipt of SDH Ethernet frames in buffer 414, pause frame is enabled is incorporated into the bit stream in order to reduce the rate, a single container or a plurality of containers may be referred to as a system of virtual containers and column 15, paragraph 32, lines 40-41, to issue a signal to transmit pause frame to local switch 103 and column 19, paragraph 37, lines 8-31, the pause frame received by the switch 103 containing pause time in accordance to IEEE 802.3X).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form 892.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABDULLAH RIYAMI whose telephone number is (571)270-3119. The examiner can normally be reached on Monday through Thursday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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